

## CLAIMS:

1. A broadcast control apparatus for visual data, the apparatus comprising:  
a touch screen display panel operable to receive and display visual data simultaneously in real time from a plurality of visual sources; and  
5 a touch screen graphical panel for the retrieval of control functions from a control function register;  
whereby visual data from at least one of the visual sources is selectable for use by finger pressure on the associated portion of the touch screen display panel and the selected data is modifiable in accordance with a retrieved control function.  
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2. The broadcast control apparatus according to claim 1, where the control function is a digital video effect or an audio effect.
3. The broadcast control apparatus according to claim 1 or 2, where the retrieved  
15 control function is able to be effected by finger pressure on an associated portion of the touch screen display panel.
4. The broadcast control apparatus according to any one of claims 1 to 3, further comprising a programmable panel having a plurality of programmable keys, each one  
20 of which is able to be programmed to retrieve a control function.
5. The broadcast control apparatus according to claim 4, where the programmable panel is positioned proximate the touch screen display panel.
- 25 6. The broadcast control apparatus according to claim 4, where the programmable panel is incorporated into the touch screen display panel.
7. The broadcast control apparatus according to any one of claims 4 to 6, further comprising a control panel to enable switching between visual sources.  
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8. The broadcast control apparatus according to claim 7 when dependent on claim 4, where the programmable panel is incorporated into the control panel.
9. The broadcast control apparatus according to claim 7, where the control panel is  
35 a customised vision switching panel.

10. The broadcast control apparatus according to any one of the preceding claims, where the selected data is modifiable by finger pressure on a portion of the touch screen graphical panel that is associated with the control function.
- 5 11. The broadcast control apparatus according to any one of the preceding claims, where control functions are executable in real time.
12. The broadcast control apparatus according to any one of claims 4 to 9, where a programmable key loaded with a control function appears back-lit with a first colour  
10 indicating to an operator that the key is ready for operation.
13. The broadcast control apparatus according to claim 12, where keys which have yet to be loaded and which are therefore available for programming appear backlit with a second colour.
- 15 14. The broadcast control apparatus according to claim 12, where keys which are in operation appear backlit with a third colour.
15. The broadcast control apparatus according to any one of the preceding claims,  
20 further comprising a display module programmable to store a plurality of screen layout configurations.
16. The broadcast control apparatus according to claim 15, where the configuration of all the visual data from respective visual sources on the touch screen display panel is  
25 resizable depending on the number of visual sources operating at any one time.
17. The broadcast control apparatus according to claim 15, when dependent on any one of claims 4 to 9 or 12 to 14, where a plurality of screen configurations are programmable into one or more of the programmable keys.
- 30 18. The broadcast control apparatus according to claim 16 or 17, where each area of the screen configuration associated with a visual source is further configurable with a personalised symbol or descriptor identifier to identify the source.
- 35 19. The broadcast control apparatus according to any one of the preceding claims, where a transition between visual data from a first visual source and visual data from a

second visual source is effected by applying finger pressure on the associated portion of the touch screen display panel that represents the first source and dragging that source to a different portion of the touch screen display panel associated with the second source.

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20. The broadcast control apparatus according to any one of the preceding claims, further comprising a second touch screen display panel operable to receive and display further visual data or to view selected visual data for output.

10 21. The broadcast control apparatus according to any one of the preceding claims, where visual sources comprise one or more of video cameras, videotape recorders, disk servers, computer generated sources, remote feeds, or the like.

22. The broadcast control apparatus according to any one of the preceding claims,  
15 where the apparatus is operational in a set up mode and an operational mode.

23. The broadcast control apparatus according to claim 22, when dependent on any one of claims 4 to 9, where pre-programming of digital video effects occurs in the set up mode.

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24. The broadcast control apparatus according to claim 22, when dependent on claim 19, where in the operation mode selection of sources and transitions between sources are performed.

25 25. The apparatus according to any one of the preceding claims, where the, or each touch screen display panel is mounted on a motorised arm to enable the distance between the or each display panel and an operator to be varied.

26. A broadcast control apparatus for the recording and replay of visual data, the  
30 apparatus comprising:

a touch screen display panel operable to simultaneously playback more than one stream of visual data from a storage unit, the visual data sourced from a plurality of visual sources;

a touch screen graphical panel for the retrieval of control functions from a  
35 control function register; and

a control panel in communication with the touch screen panels, the control panel including a plurality of programmable keys, each one of which is able to be programmed to retrieve a control function;

whereby playback of visual data from the storage unit is able to be modified in  
5 accordance with a retrieved control function.

27. The apparatus according to claim 26, where the retrieved control function is able to be effected by finger pressure on an associated portion of the touch screen display panel that is associated with the control function.

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28. The apparatus according to claim 26 or 27, where respective streams of visual data from the storage unit are configurable on the touch screen display panel and are resizable depending on the number of streams of visual data displayed.

15 29. The apparatus according to claim 28, where at least one key is programmable with a plurality of different screen configurations.

30. The apparatus according to any one of claims 26 to 29, where at least one key is programmable to create a clip from a stream of replayed visual data.

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31. The apparatus according to claim 30, where at least one key is programmable to text tag the clip of visual data.

25 32. The apparatus according to any one of claims 26 to 31, where the touch screen graphical panel is operable to build playlists and sequences.

33. The apparatus according to claim 32, where a sequence is built by effecting a transition between visual data from a first visual source and visual data from a second visual source, whereby finger pressure is applied on that associated portion of the touch  
30 screen display panel that represents the first source and dragging that source to a different portion of the touch screen display panel associated with the second source.

34. The apparatus according to claim 33, where the transition includes activating a key programmed with a text tag and associating the text tag with the data from the  
35 second source.

35. The apparatus according to any one of claims 26 to 34, where at least one key is programmable for rewinding all of the visual source data simultaneously.
36. The apparatus according to any one of claims 26 to 35, where the control panel  
5 further includes one or more of a speed control section for at least controlling the rate of play of a stream of visual data, a timecode section for displaying the duration of a stream of visual data, a cueing section for the marking of, and searching for cues and for the navigation within the storage unit, and a slow-motion section.
- 10 37. The apparatus according to any one of claims 26 to 36, further comprising a second touch screen display panel to view visual data for output.
38. The apparatus according to any one of claims 26 to 37, where the, or each touch screen display panel is mounted on a motorised arm to enable the distance between the  
15 or each display panel and an operator to be varied.
39. A system for broadcast control comprising:  
a first apparatus comprising a touch screen display panel operable to receive and  
20 display visual data simultaneously in real-time from the plurality of visual sources; and a touch screen graphical panel for the retrieval of control functions from a control function register; whereby visual data from at least one of the visual sources is selectable for use by finger pressure on the associated portion of the touch screen display panel and the selected data is modifiable in accordance with a retrieved control  
25 function;  
a storage unit for storing visual data from the plurality of visual sources;  
a second apparatus comprising a touch screen display panel operable to simultaneously playback more than one stream of visual data from the storage unit and to produce an output; a touch screen graphical panel for the retrieval of control  
30 functions from a control function register; and a control panel in communication with the touch screen panels, the control panel including a plurality of programmable keys, each one of which is able to be programmed with a retrieved digital video effect; whereby playback of visual data from the storage unit is able to be modified in accordance with a retrieved control function ;  
35 whereby the first apparatus is operable to edit selected modified data with output from the second apparatus for transmission.

40. The system according to claim 39, where the first apparatus of the system further comprises a programmable panel having a plurality of programmable keys, each one of which is able to be programmed to retrieve a control function.

41. The system according to claim 40, where the programmable panel is positionable proximate the touch screen display panel of the first apparatus.

42. The system according to claim 40, where the programmable panel is incorporated into the touch screen display panel of the first apparatus.

43. The system according to claim 39, where the first apparatus further comprises a control panel to enable switching between visual sources, the panel having a plurality of programmable keys.

44. The system according to any one of claim 43, where the touch screen graphical panel of the second apparatus has control over one or more of the plurality of programmable keys on the control panel of the first apparatus for the execution of control functions or for defining video clips and playlists.

45. The system according to any one of claims 39 to 44, where the output is modified or unmodified visual data.

46. The system according to any one of claims 39 to 45, where the selected data is modifiable by finger pressure on a portion of the touch screen graphical panel that is associated with the control function.

47. The system according to any one of claims 39 to 45, where the first and second apparatus further comprise a display module programmable to store a plurality of touch screen configurations.

48. The system according to claim 47, where the configuration of all the visual data from respective visual sources on the respective touch screen display panels are resizable depending on the number of visual sources operating at any one time.

49. The system according to claim 47, when dependent on any one of claims 40 to 44, where a plurality of screen configurations are programmable into one or more of the programmable keys.
- 5 50. The system according to claim 47, where each area of the screen configuration associated with a visual source is further configurable with a personalised symbol or descriptor identifier to identify the source.
- 10 51. The system according to any one of the preceding claims 39 to 50, where a transition between visual data from a first visual source and visual data from a second visual source are effected by applying finger pressure on the associated portion of the touch screen display panel of the first apparatus that represents the first source and dragging that source to a different portion of the touch screen display panel of the first apparatus associated with the second source.
- 15 52. The system according to any one of the preceding claims 39 to 51, where the first apparatus further comprises a second touch screen display panel operable to receive and display further visual data or to view selected visual data for transmission.
- 20 53. The system according to any one of claims 39 to 52, further comprising an audio mixing panel to combine an audio source with selected modified data edited with output from the second apparatus for transmission.
- 25 54. The system according to any one of claims 39 to 53, where the second apparatus is further operable to edit its output with selected modified data from the first apparatus to create a sequence for transmission.
- 30 55. The system according to claim 54, where the sequence is made available to the operator of the first apparatus.
56. A method for broadcast control comprising the steps of:  
storing control functions in a control function register;  
displaying on a touch screen display panel of a first apparatus visual data  
35 simultaneously in real-time from a plurality of visual sources; a first operator

selecting visual data from at least one of the visual sources by finger pressure on the associated portion of the touch screen display panel of the first apparatus; the first operator

5 retrieving a control function from the control function register; and the first operator

modifying the selected visual data with the retrieved control function to produce a first output and cueing the first output for transmission.

57. The method according to claim 56, further comprising a second set of steps  
10 including:

storing visual data from at least a portion of the plurality of visual sources;

replaying streams of stored visual data simultaneously on a touch screen display panel of a second apparatus ; a second operator

15 selecting a stream of visual data by finger pressure on the associated portion of the touch screen display panel of the second apparatus; the second operator

retrieving a control function from a control function register; the second operator

modifying the selected visual data with the control function to produce a second output; and the second operator

20 cueing the second output relative to the first output to create a sequence for transmission.

58. The method according to claim 56, further comprising the step of the first operator instructing the second operator to source a stored piece of visual data and to  
25 modify it with a particular control function such that the first operator is able to create a sequence of visual data for broadcast transmission.

59. The method according to claim 57 or 58, further comprising the step of programming programmable keys with selected control functions.  
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60. The method according to claim 59, whereby the programmable keys are pre-programmed.

61. The method according to claim 59 or 60, whereby the step of the first operator  
35 retrieving a control function comprises the first operator activating an area of the touch screen graphical panel associated with the control function, or activating a key



programmed or pre-programmed with the control function, or activating an area of the touch screen display panel associated with the control function .

62. The method according to any one of claims 59 to 61, further including the step  
5 of personalising a programmable key by associating a symbol or a descriptor.

63. The method according to any one of claims 56 to 62, further comprising the step  
of storing a plurality of touch screen configurations for the touch screen display panels  
of the first apparatus and the second apparatus for displaying the plurality of visual  
10 sources.

64. The method according to any one of claims 63, further comprising the step of re-  
configuring the touch screen display panel of the first apparatus or the second  
apparatus.  
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65. The method according to any one of claims 56 to claim 64, further comprising  
the step of effecting a transition between visual data from a first visual source and  
visual data from a second visual source by applying finger pressure on the associated  
portion of the touch screen display panel representative of the first source and dragging  
20 that source to another portion of the touch screen display panel representative of the  
second source.

66. The method according to any one of claims 56 to claim 65, whereby the first  
operator and second operator access the same control function register.  
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67. The method according to any one of claims 56 to 66, whereby created sequences  
are transmitted live or stored for broadcast at a later date.